

Memorandum

To: Papio-Missouri River Natural Resources District Programs Projects and Operations Subcommittee
From: Paul W. Woodward, PE, Groundwater Management Engineer
Date: March 31, 2020
Re: Review and Recommendation of Eastern Nebraska Water Resource Assessment (ENWRA) Agreements

In March of 2017, the seven NRDs involved in the Eastern Nebraska Water Resources Assessment (ENWRA) agreed to support a statewide AEM data management platform that could be seamlessly shared with all possible data users, known as the Nebraska GeoCloud and Airborne Electromagnetic (AEM) Data Integration project. To initiate this project, a Water Sustainability Fund (WSF) grant was awarded in the amount of \$247,437 (60% of the \$412,396 project total), and 10 NRD's and ENWRA provided the \$165,000 in matching funds through 2020.

Accomplishments of the project thus far include a complete inventory of all statewide AEM data saved in the Cloud, production of a customized web interface for downloads and data inquiries, construction of geodatabases to allow the future creation and storage of additional geologic surfaces and point data, three educational workshop for all users, and the development of user guidance documents. Visit <http://snr.unl.edu/csd/geology/nebraskageocloud.aspx#> to learn more.

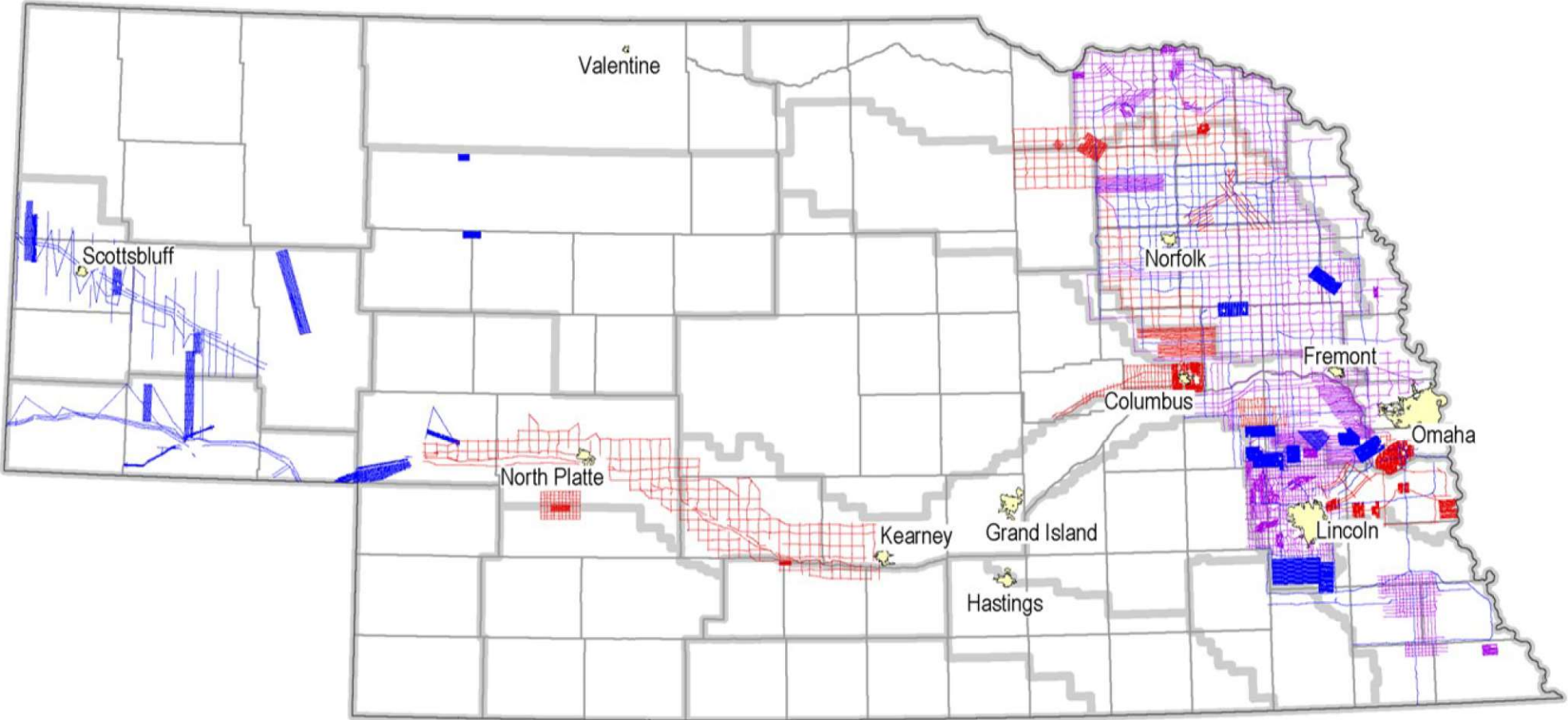
A second interlocal agreement for the next two years is proposed to maintain and enhance the GeoCloud platform. Work under this second agreement will be performed by UNL-CSD, I-GIS through a sub-agreement with UNL, and USGS. Through the attached interlocal agreement, funding is split between existing ENWRA funds of nearly \$50,000 and all 10 NRDs. The table below shows the participating NRDs and their FY 21 and FY 22 funding amounts:

Financial Sponsors	FY21	FY22	Total
LPSNRD	\$3,400	\$3,400	\$6,800
LPNNRD	\$3,400	\$3,400	\$6,800
P-MRNRD	\$3,400	\$3,400	\$6,800
LCNRD	\$1,000	\$1,000	\$2,000
LENRD	\$3,400	\$3,400	\$6,800
NNRD	\$3,400	\$3,400	\$6,800
LLNRD	\$3,400	\$3,400	\$6,800
UENRD	\$1,700	\$1,700	\$3,400
CPNRD	\$3,400	\$3,400	\$6,800
TPNRD	\$3,400	\$3,400	\$6,800
ENWRA (LCNRD, LENRD, LPNNRD, LPSNRD, NNRD, P-MRNRD)	\$25,000	\$25,000	\$50,000
TOTALS	\$54,900	\$54,900	\$109,800

Additionally, the ENWRA Interlocal Cooperative Agreement amongst the seven NRDs requires an Amendment #6 to extend the term of the ENWRA Coordinator position between LPSNRD and UNL-CSD through June 30, 2022. The existing agreement already extends ENWRA until June 30, 2022; so, this Amendment #6 would allow LPSNRD to extend their agreement with UNL-CSD for the coordinator position to the same date. No other provisions are being changed, including the annual dues set through FY 22 (\$30,000 for the P-MRNRD).

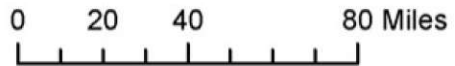
- a) **Staff recommends that the subcommittee recommend to the Board of Directors that the General Manager be authorized to execute an Interlocal Cooperative Agreement with nine other Natural Resources Districts to support the Nebraska GeoCloud and Airborne Electromagnetic (AEM) Data Integration project with a total District financial contribution of \$6,800, equally distributed in FY21 and FY22, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.**
- b) **Staff recommends that the subcommittee recommend to the Board of Directors that the General Manager be authorized to execute Amendment #6 to the Interlocal Cooperative Agreement with seven other Natural Resources Districts for the Eastern Nebraska Water Resources Assessment, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.**

Existing Airborne Electromagnetic (AEM) Surveys in Nebraska July 2018



Legend

- 2018 AEM Surveys
- 2016 AEM Surveys
- 2007 to 2015 AEM
- ▭ NRD Boundaries
- ▭ Counties
- ▭ City



Map Created: Dec 21, 2018
By: Katie Cameron, ENWRA Project Coordinator

Memorandum

Date: March 16, 2020



To: Nebraska GeoCloud (NGC) Sponsors (SPONSORS):

LEWIS & CLARK NATURAL RESOURCES DISTRICT, LOWER ELKHORN NATURAL RESOURCES DISTRICT, LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT, LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT, NEMAHA NATURAL RESOURCES DISTRICT, PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT, LOWER LOUP NATURAL RESOURCES DISTRICT, UPPER ELKHORN NATURAL RESOURCES DISTRICT, TWIN PLATTE NATURAL RESOURCES DISTRICT, and CENTRAL PLATTE NATURAL RESOURCES DISTRICT

From: The NGC team

Subject: Authorization for the Lower Platte South General Manager on behalf of the SPONSORS to sign a Two Year Interlocal Agreement (and necessary related sub-agreements) to continue operation, maintenance and coordination of the NGC Platform hosting the state-wide Airborne Electromagnetic Survey (AEM) and supporting datasets for the SPONSOR's data sharing and visualization needs:

- 1) Nebraska GeoCloud (NGC) Two Year Agreement w/10 member NRDs
 - a. NGC Sub-agreement with University of Nebraska Conservation and Survey Division (UNL CSD)
 - b. NGC Sub-joint funding agreement with U.S. Geological Survey (USGS) – (extension of original)
 - c. NGC Sub-agreement with Aqua Geo Frameworks, LLC (AGF)

Background: The SPONSOR's Water Sustainability Fund (WSF) award #4164: *Nebraska GeoCloud and Airborne Electromagnetic (AEM) Data Integration*, approved for \$247,437.60 in funding by the Natural Resources Recourses Commission (NRC) on December 12, 2016, is expected to close out this June 30, 2020. The WSF reimbursed 60% of eligible project costs and required a 40% local match (last claim and final reimbursement is expected this summer). The NGC Accomplishments to date are summarized in Exhibit A to the Interlocal Agreement. The Draft Interlocal, Exhibit A, and three sub-agreements (1a, 1b and 1c above) further describing scope and estimated costs are included as **Attachment #1**. The two year agreement costs incorporated into the 10 NRD interlocal agreement (Table in Section 4.01), are anticipated to remain the same or similar to the annual amounts for each NRD that were outlined in the previous agreement (we no longer have 60% WSF dollars but our previous annual 40% match breakdown should cover the anticipated operations and maintenance). The agreements have already been reviewed by Lower Platte South Natural Resources District's (LPSNRD's) legal representative and are on the agenda for consideration on your behalf at the upcoming April 2020 LPSNRD board meeting (pending upcoming developments with potential emergency conditions).

With the approval of this authorization, all of the necessary agreements to operate and maintain the NGC for the next two years will be in place (includes minor new developments and facilitation with SPONSORS). The NGC team plans to begin Nebraska Viewer training and discussions with potential "superusers", NGC representatives delegated by each of the individual SPONSOR's once the NGC goes live. The next workshop is tentatively scheduled for late summer or fall 2020. Thank you for your support and consideration. Feel free to contact us for further discussion or to schedule onsite sessions.

Jesse Korus, PhD, Assistant Professor



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jkorus3@unl.edu

Chris Hobza, Lead Hydrologist, P.G.



402.328.4133
cmhobza@usgs.gov

Katie Cameron, P.G



402.419.4798 cell
kcameron_enwra@lpsnrd.org

INTERLOCAL COOPERATIVE AGREEMENT

BETWEEN THE

**LEWIS & CLARK NATURAL RESOURCES DISTRICT
LOWER ELKHORN NATURAL RESOURCES DISTRICT
LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT
LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT
NEMAHA NATURAL RESOURCES DISTRICT
PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT
LOWER LOUP NATURAL RESOURCES DISTRICT
UPPER ELKHORN NATURAL RESOURCES DISTRICT
TWIN PLATTE NATURAL RESOURCES DISTRICT
CENTRAL PLATTE NATURAL RESOURCES DISTRICT**

THIS AGREEMENT is made and entered into this ____ day of _____, 2020, by and between the between the Lewis & Clark Natural Resources District (“LCNRD”), Lower Elkhorn Natural Resources District (“LENRD”), Lower Platte North Natural Resources District (“LPNNRD”), Lower Platte South Natural Resources District (“LPSNRD”), Nemaha Natural Resources District (“NNRD”), Papio-Missouri River Natural Resources District (“P-MRNRD”), Lower Loup Natural Resources District (“LLNRD”), Upper Elkhorn Natural Resources District (“UENRD”), Twin Platte Natural Resources District (“TPNRD”), and Central Platte Natural Resources District (“CPNRD”), hereinafter referred to individually as “each District” or the individual District’s initials, for example, LPSNRD, or collectively as the “DISTRICTS” .

WITNESSETH:

RECITALS

A. The DISTRICTS are political subdivisions of the State of Nebraska organized and existing pursuant to *Neb. Rev. Stat.* §§ 2-3201, et seq., and have the authority, pursuant to *Neb. Rev. Stat.* § 2-3232(1), to make studies, investigations, or surveys and do research as may be necessary to carry out its authorized purposes, enter upon any land, after notifying the owner or occupier, for the purpose of conducting such studies, investigations, surveys, and research, and publish and disseminate the results.

B. Among the authorized purposes of the DISTRICTS, pursuant to *Neb. Rev. Stat.* § 2-3229, are water supply for any beneficial uses, and the development, management, utilization, and conservation of ground water and surface water.

C. The State or any local government may exercise any of its powers or perform any of its functions jointly or in cooperation with any other governmental entity as authorized by Article XV § 18 of the Nebraska Constitution. Any two or more public agencies (county, city, village, school district, agency of the State government, or political subdivision of this State) are authorized by *Neb. Rev. Stat.* §§ 13-801 to 13-827 to enter into interlocal agreements with one another for joint or cooperative action for any power or powers, privileges or authorities exercised or capable of exercise individually by such public agencies.

D. The DISTRICTS have a mutual interest in the study and stewardship of the hydrogeologic and groundwater resources in Nebraska.

E. The DISTRICTS, through a previous cooperative arrangement and Water Sustainability Fund (“WSF”) grant award (WSF#4164 - *the Nebraska GeoCloud and Airborne Electromagnetic [AEM] Data Integration*), have established the Nebraska GeoCloud platform (“NGC”) implemented by the University of Nebraska Conservation and Survey Division, School of Natural Resources (“CSD”), the U.S. Geological Survey, United States Department Of The Interior (“USGS”) and Nebraska’s Natural Resources Districts (“NRDs”). The DISTRICTS, CSD and USGS are at the “publish and disseminate the results” stage of the NGC cooperative effort (Exhibit “A” - WSF#4164 status report). The DISTRICTS, CSD and USGS are also approaching the end of the previous NGC agreement term (term closes June 30, 2020)

F. The DISTRICTS desire to establish this interlocal cooperative agreement (“ICA”), hereinafter referred to as “NGC ICA”, to sustain and maintain the AEM and supporting geologic data compiled under the NGC Platform investment for the next two years beyond the June 30, 2020 WSF#4164 grant award closeout. The NGC Platform requires server storage space, internet access and support from the NGC development team to facilitate data requests, potential NGC upload/download/input/output issues and continue outreach/workshop activities. Exhibit “A” attached to, and incorporated herein, by this reference further describes the NGC accomplishments and portal resources designed for federal, state and local agencies, the public, and the private sector.

NOW, THEREFORE, in consideration of the above Recitals and the mutual promises and covenants contained herein, the DISTRICTS agree as follows:

ARTICLE I

OBJECTIVES AND PURPOSES

Section 1.01

The objective and purpose of this NGC ICA is to establish a single uniform framework to provide \$109,800 for funding the NGC. The DISTRICTS will budget funds (individual DISTRICT funds) for Fiscal Years (July 1 to June 30) (FY) 2021 and FY 2022, all as shown in the table in Section 4.01.

Section 1.02

In order to attain the objective and purpose of this NGC ICA, each District shall perform its obligations and commitment under this Agreement in good faith and shall cooperate with the other DISTRICTS.

ARTICLE II

TERM OF AGREEMENT

Section 2.01

This NGC ICA shall become effective and binding upon its approval by appropriate action of the governing bodies of each District pursuant to *Neb. Rev. Stat.* § 13-1804(2) and execution by all of the DISTRICTS.

Section 2.02

Each District hereby agrees to participate with the other DISTRICTS in the conduct of the activities hereinafter described.

Section 2.03

In the event that a District fails to perform its obligations and commitments pursuant to this NGC ICA, the other DISTRICTS either individually or jointly, may legally seek to enforce such obligations and commitments in the appropriate court of law. .

Section 2.04

The term of this NGC ICA shall begin on the date of the last signatory District and continue until the end of the DISTRICTS FY2022 (June 30, 2022), unless further extended by the mutual agreement of all DISTRICTS. This NGC ICA shall survive a transition of the form of government of a District from one form to another. In the event that one or more Districts fails to perform their financial obligation and commitment under this Agreement, the remaining Districts, in addition to taking legal action to recover amounts in default, may at their option continue with the NGC for the remainder of the ICA term.

ARTICLE III

AGREEMENT ADMINISTRATION

Section 3.01

The NGC ICA Coordinator, is Kathleen Cameron: located at LPSNRD, PO Box #83581, Lincoln, NE 68501-3581, kcameron_enwra@lpsnrd.org, and will serve as the contact person for the overall coordination of the DISTRICTS' FY2021 and FY2022 financial obligation and commitment. .

Each District will provide a contact person to receive communications and local invoices related to the NGC ICA from the NGC ICA Coordinator.

Section 3.02

This Agreement does not establish a separate joint or legal entity. LPSNRD shall act as Administrator of the NGC ICA and shall be responsible for the administration of all funds (receivable and payable) and shall enter into all subcontracts/subagreements necessary to achieve the **ARTICLE 1 Objectives and Purposes** in its name as NGC ICA Administrator.

Section 3.03

The NGC ICA Coordinator shall obtain pre-approval for and subsequently provide copies of all NGC team subagreements/subcontracts under the NGC ICA to each District.

Section 3.04

Each District shall be responsible for the negligent acts or omissions of its own employees and shall not be responsible for the negligent acts or omissions of other DISTRICTS employees.

Section 3.05

LPSNRD shall prepare and send at the beginning of each FY a statement of the shared costs to be incurred for the upcoming FY for the NGC ICA for each District and each District shall pay its share of the costs within 45 days of the receipt of such statement.

Section 3.06

LPSNRD shall prepare and send to each District within 45 days of the close of each FY, a summary of the receipts and expenses of the NGC ICA.

ARTICLE IV

FUNDING

Section 4.01

Each District will budget funds for fiscal year FY2021 and FY2022 as follows:

Financial Sponsors	FY21	FY22	Total
LPSNRD	\$3,400	\$3,400	\$6,800
LPNNRD	\$3,400	\$3,400	\$6,800
P-MRNRD	\$3,400	\$3,400	\$6,800
LCNRD	\$1,000	\$1,000	\$2,000
LENRD	\$3,400	\$3,400	\$6,800
NNRD	\$3,400	\$3,400	\$6,800
LLNRD	\$3,400	\$3,400	\$6,800
UENRD	\$1,700	\$1,700	\$3,400
CPNRD	\$3,400	\$3,400	\$6,800
TPNRD	\$3,400	\$3,400	\$6,800
ENWRA (LCNRD, LENRD, LPNNRD, LPSNRD, NNRD, P-MRNRD)	\$25,000	\$25,000	\$50,000
TOTALS	\$54,900	\$54,900	\$109,800

ARTICLE V

POWERS

Section 5.01

The DISTRICTS shall have all of the powers and authorities pursuant to state statutes that are necessary to carryout the stated objective and purpose on behalf of the NGC ICA joint and cooperative effort.

Section 5.02

Each District shall have such other powers as are authorized under the Nebraska statutes that establish each such District, and under the Interlocal Cooperation Act, *Neb. Rev. Stat.* §§ 13-801 to 13-827, which are necessary and proper for the achievement of the stated objective and purpose as set forth in this NGC ICA.

Section 5.03

In every contract to which the state or any of its political subdivisions is a party, it shall contain a provision requiring the contractor and his or her subcontractors not to discriminate against any employee, or applicant for employment, to be employed in the performance of such contract, with respect to his or her hire, tenure, terms, conditions, or privileges of employment, because of his or her race, color, religion, sex, disability, or national origin, in accordance with the Nebraska Fair Employment Practices Act, *Ne. Rev. Stat. Section 48-1122, as amended*. The Districts are all political subdivisions of the State of Nebraska and therefore this provision is required to be included as a provision of this Agreement.

ARTICLE VI

AMENDMENTS

Section 6.01

Any District may propose an amendment to this NGC ICA by submitting it in writing to the other DISTRICTS, which shall immediately consider in good faith the proposed amendment; provided, however, that no such amendment shall, directly or

indirectly, affect or impair any written contracts or agreements entered into prior to the effective date of such amendment.

Section 6.02

No amendment or other modification to this NGC ICA shall be effective unless it is in writing and approved by all DISTRICTS. Such amendment shall become effective after all DISTRICTS have approved and executed the same.

Section 6.03

This agreement may be executed in two or more counterparts, each of which shall be an original but all of which shall constitute one and the same instrument. This Agreement is hereby approved and executed by the following DISTRICTS on the dates shown below.

IN WITNESS WHEREOF, each District has caused this NGC ICA to be executed by its duly authorized officer as of the date and year shown below.

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LEWIS AND CLARK NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER ELKHORN NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

NEMAHA NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER LOUP NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

UPPER ELKHORN NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

CENTRAL PLATTE NATURAL RESOURCES DISTRICT

BY: Lyndon Vogt

DATE: 3/27/2020

TWIN PLATTE NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

Exhibit A

Report of Accomplishments for Nebraska GeoCloud (NGC) and Airborne Electromagnetic (AEM) Data Integration · WSF Application #4164

Data Inventory

- Approximately 30,000 kilometers of AEM data and project deliverables added to the NGC

Nebraska GeoCloud and GeoScene3D Developments

- Contract with I-GIS
- Expandable design for handling further developments and new projects
- Versatile database structures
 - AEM
 - 2D grids
 - 3D grids
 - Borehole drilling information (lithology, well construction, water levels)
 - Borehole geophysical logs
 - Point data
 - Shapefiles
- Nebraska GeoCloud Web user interfaces
 - Data administration (upload data files and associated metadata)
 - Data map (browse, explore, and download data through interactive map)
 - User administration (user role, permissions, new user invitation, and password reset)
 - Projects administration (create, upload, and share GeoScene3D projects, reports, and a variety of file types)
 - Projects map (browse, explore, and download GeoScene3D projects, reports, and a variety of file types)
- Customized Nebraska GeoScene3D viewer
 - Web data portal for connection to GeoCloud
 - Extended functionality for profile views and custom color scales

Training and Education

- Workshop 1 (August 15 – 17, 2017)
 - 2.5 day training on Nebraska GeoCloud and GeoScene3D in Lincoln, NE, featuring guests from I-GIS in Denmark
 - Attended by 32 groundwater professionals; 18 Continuing Education Units (CEUs) offered.
- Workshop 2 (August 7 – 8, 2018)
 - 2 day training on Nebraska GeoCloud and GeoScene3D in Gothenburg, NE

Exhibit A

- Attended by 28 groundwater professionals; 18 Continuing Education Units (CEUs) offered.
- Workshop 3 (April 1 – 2, 2019)
 - 2 day training on Nebraska GeoCloud and GeoScene3D in Lincoln, NE, featuring guests from I-GIS in Denmark
 - Attended by 21 groundwater professionals

Hydrogeologic Investigations

- Platte and Colfax Counties
 - Data assembled and checked for quality and consistency
 - GeoScene3D project created containing boreholes, AEM, groundwater levels, and supporting information
 - 2D and 3D grids created for selected areas
 - Project used in Workshop 2 for hands-on training
 - Completed validation study of hydrostratigraphic modeling methods (MS thesis)
 - Recommendations provided for future modeling efforts
- Bazile Groundwater Management Area (BGMA)
 - Data assembled and checked for quality and consistency
 - GeoScene3D project created containing boreholes, AEM, discrete groundwater levels, water-quality, and age tracer data
 - Released previously unpublished groundwater age tracer data
 - Interpreted continuous groundwater levels, water-quality, and age tracer data to understand water movement and groundwater vulnerability
 - Recommendations provided for future groundwater monitoring within the BGMA
 - Final report currently in review

Standards and Guidelines

- Finalized standards for coordinate system, AEM file naming and metadata
- Draft standards in progress for grids, shapefiles, boreholes, and point data
- Draft document in progress containing guidelines for AEM surveys and hydrogeological modeling
- Procedures developed for mapping the bedrock surface using boreholes and AEM data
- Procedures and codes developed for assigning keywords and hydraulic property estimates to borehole lithology descriptions

**NGC Sub-agreement 1a. with University of Nebraska Conservation and Survey Division
(UNL CSD)**

COOPERATIVE AGREEMENT

THIS COOPERATIVE AGREEMENT (the "Agreement") is made and entered into by and between the LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT ("DISTRICT"), acting as Administrator under an Interlocal Cooperative Agreement ("ICA") identified in Exhibit "1", and the BOARD OF REGENTS OF THE UNIVERISTY OF NEBRASKA ON BEHALF OF THE UNIVERSITY OF NEBRASKA-LINCOLN, SCHOOL OF NATURAL RESOURCES, CONSERVATION AND SURVEY DIVISION ("CSD"), collectively referred to herein as the "Parties."

WITNESSETH:

RECITALS

- A. The Parties have a mutual interest in the study and stewardship of the hydrogeologic and groundwater resources in Nebraska.
 - B. The Parties desire to maintain a cooperative working arrangement to enhance the study and stewardship of the hydrogeologic and groundwater resources in Nebraska through the continued hosting of Nebraska GeoCloud ("NGC") Platform created under the previous mutual agreement between the parties dated March 2017.
 - C. LPSNRD is acting as Administrator under the NGC ICA attached hereto as Exhibit "1" and incorporated herein by this reference.
1. NOW THEREFORE, in consideration of the above recitals and the mutual promises and covenants contained herein, the Parties agree as follows:

Effective Date. The Parties agree that this Agreement will become effective upon the signature of both Parties.

Term. The term of the Agreement shall be from the effective date hereof through the end of LPSNRD fiscal year 2022 (June 30, 2022) with the understanding that a 5 year renewal periods are planned thereafter as long as the NGC remains a viable source of statewide hydrogeologic datasets for Nebraska. In the event additional funds are needed for the renewal scopes, amendments shall be executed by both parties.

Responsibilities of the LPSNRD. The LPSNRD agrees to the following:

Administer the NGC ICA (Exhibit "1") funding for CSD's hosting of the NGC along with the U.S. Geological Survey (USGS) and other required subagreements/subcontracts on behalf of the participating Natural Resources Districts ("SPONSORS").

Provide an agreement administration coordinator for the NGC: Kathy Spence, Lower Platte South Natural Resources District, PO Box #83581, Lincoln, NE 68501-3581, email address kspence@lpsnrd.org.

LPSNRD will submit payment within 45 days of receipt of the CSD invoices, anticipated on a semi-annual frequency. LPSNRD policies do not allow payment of indirect costs. Anticipated fiscal year funding breakdown as follows:

	FY21	FY22	Total
CSD (workshops, travel, NGC operations, coordination and maintenance)	\$4,280.50	\$4,280.50	\$8,561.00
I-GIS Subagreement	\$42,769.50	\$42,769.50	\$85,539.00
TOTALS:	\$47,050.00	\$47,050.00	\$94,100.00

The following agreements, in addition to this agreement, are necessary for LPSNRD's administration of the funds for reference:

- NGC ICA providing \$109,800.00 for the two year continuance of the NGC
- Joint Funding Agreement (JFA) between the LPSNRD and the USGS for \$13,500.00 in technical assistance (\$8,500.00 from LPSNRD on behalf of NGC ICA and \$5,000.00 in USGS Cooperative federal dollars)
- Professional Services Agreement with Aqua Geo Frameworks (AGF), primary NGC dataset authors for periodic review and hourly consulting \$7,200

Responsibilities of the CSD. CSD agrees to the following:

Lead the NGC service hosting (through Professional Services agreements with I-GIS, includes providing users access to the data) in cooperation with the USGS and participating SPONSORS.

Submit an annual budget for the NGC hosting to the LPSNRD for inclusion in the DISTRICTS budget by May 1 of each year.

Invoice the LPSNRD, on a semi-annual basis, not more than \$94,100 throughout the term of the agreement herein for the NGC hosting as outlined in DISTRICTS annual fiscal budgets as per the table shown above.

Amendments. The Agreement may only be amended in writing signed by the Parties.

IN WITNESS WHEREOF the Parties have executed the Agreement by their authorized representatives on the date show below.

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT, as Administrator, acting on behalf of the participating NGC ICA attached as Exhibit "1" hereto.

By: _____ Date _____

CONSERVATION & SURVEY DIVISION
OF THE UNIVERSITY OF NEBRASKA

By _____ Date _____

THE BOARD OF REGENTS OF THE
UNIVERSITY OF NEBRASKA

By _____ Date _____

DRAFT

EXHIBIT "1" is the interlocal agreement (page 2 to 21 of this PDF)

NGC Sub-agreement 1b. with U.S. Geological Survey (USGS)



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Water Resources Discipline
Nebraska Water Science Center
5231 South 19th Street
Lincoln, NE 68512-1271

March 13, 2020

Paul Zillig
Lower Platte South Natural Resources District
PO Box 83581
Lincoln, NE 68501-3581

Dear Mr. Zillig:

Enclosed are two copies of supplemental Joint Funding Agreement No. 17EMNE000240, modification 001, for the Airborne Electromagnetic Data Integration and Bedrock Mapping project. The total amount of the agreement is increased by \$13,500 or \$5,000 for the U.S. Geological Survey and \$8,500 for the Lower Platte South NRD. The agreement is extended to provide technical assistance with the next phase of the Nebraska Geocloud project. Please sign one copy of the agreement and return it to this office. The second copy is for your records.

Work performed with funds from this agreement will be conducted under the authority of Statute 43 USC 36C on a fixed-price basis. Billings will be rendered quarterly. The results of all work under this agreement will be available for publication by the U.S. Geological Survey.

Please contact Chris Hobza at 402-328-4133 if you have any questions concerning this agreement.

Sincerely,

Wesley W. Stone, Acting Director
Nebraska Water Science Center

2 Enclosures

DUNS No. 949286512

Agreement No. 17EMNE000240
Modification No. 001
Customer No. 6000000121
Cost Center GGEMNR0000
Project NR00GRB
TIN 47-0542969

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SUPPLEMENTAL JOINT FUNDING AGREEMENT
FOR
WATER RESOURCES INVESTIGATIONS

THE GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the **LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT**, party of the second part, hereby agree to amend the Joint Funding Agreement No. **17EMNE000240** dated April 1, 2017 as follows:

Paragraph 2(a) is hereby **increased by \$5,000** to read as follows:

- (a) \$55,500 by the party of the first part during the period
April 1, 2017 to September 30, 2022


Paragraph 2(b) is hereby **increased by \$8,500** to read as follows:

- (b) \$136,500 by the party of the second part during the period
April 1, 2017 to September 30, 2022

The end date has been extended to September 30, 2022. Billing for this agreement will be rendered **quarterly**. Payments of bills are due within 60 days after billing date. If not paid by the due date, interest will be charged at the current Treasury rate for each 30-day period, or portion thereof, that the payment is delayed beyond the due date. (31 USC 3717; Comptroller General File B-212222, August 23, 1983.)

Geological Survey
UNITED STATES
DEPARTMENT OF THE INTERIOR

LOWER PLATTE SOUTH
NATURAL RESOURCES DISTRICT

By 
Wesley W. Stone, Acting Director
Nebraska Water Science Center

By _____

Date 3/13/2020

Date _____

NGC Sub-agreement 1c. with Aqua Geo Frameworks, LLC (AGF)

PROFESSIONAL SERVICES AGREEMENT

This Professional Services Agreement (this "Agreement") is made and entered into as of June X, 2020 by and between the LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT, a political subdivision of the State of Nebraska, as administrator of the Nebraska GeoCloud Interlocal Cooperative Agreement (ICA) between multiple SPONSORS (listed in Exhibit 1), having an office at 3125 Portia Street, Lincoln, Nebraska, 68521 (hereinafter collectively called "District") and Aqua Geo Frameworks, LLC., a limited liability corporation of the State of Nebraska, having its principal office located at 130360 County Road D, Mitchell, NE 69357-2508 (hereinafter called "AGF" or the "Contractor"). The District and Contractor are sometimes referred to below as "Parties" and each of them as a "Party."

WITNESSETH:

RECITALS

A. The District desires to have the Consultant provide ongoing collaboration services with the District on the Nebraska GeoCloud Project (NGC).

B. AGF is a Company qualified and experienced in conducting and preparing the AEM Survey Data (AGF team members authored much of the original NGC contents) and agrees to contract with the District to provide collaboration services as further described below.

NOW THEREFORE, in consideration of the above recitals and the mutual promises and covenants contained below, the parties agree as follows:

1. SCOPE OF WORK

The Contractor shall provide periodic review of metadata for existing and planned files on the NGC and provide author-level insight on fixing any errors that might occur on behalf of the SPONSORS supporting the NGC. There will be no report for this work, only a transmittal letter and/or digital text file documenting NGC collaboration work completed.

2. SCHEDULE

The review and insight services are scheduled to match the term of the SPONSORS NGC ICA (Exhibit 1) dated XXXX, 2020.

3. COMPENSATION.

3.1 For the services satisfactorily rendered as set forth in this Agreement Section 1.0, the Contractor will be paid as described below:

3.1.1 The District shall pay a fee of \$ 7,200 (estimated 40 hours at \$180.00 per hour).

3.2 In no event shall the work described herein exceed \$7,200.00 unless authorized in writing by the District.

4. TERM AND TERMINATION

4.1 This Agreement is effective as of June 30, 2020 and shall continue until June 30, 2022, unless terminated earlier as provided for in the Agreement, or extended by mutual agreement of the Parties.

4.2 If AGF defaults in the performance of its material obligations, the District may, without prejudice to any other remedy it may have, give AGF written notice of its intent to terminate this Agreement, unless AGF remedies the default within ten (10) days after receiving such notice. If AGF has not remedied said default within such time, District may, upon written notice to AGF, terminate this Agreement.

4.3 The District may, at its option, terminate this Agreement for reasons other than AGF's default at any time prior to the completion of the Project upon giving AGF thirty (30) days written notice. If the District elects to terminate this Agreement prior to the completion of the Project, then the District shall pay to AGF all costs incurred by AGF, pursuant to this Agreement or for which AGF has become obligated to incur, prior to the date of termination.

5. INDEPENDENT CONTRACTOR

It is understood and agreed that AGF is, and shall be deemed and treated as an independent contractor while engaged in the performance of professional services to the District and none of its employees, agents or subcontractors shall be employees or agents of the District for any purpose. AGF maintains the absolute right to supervise, manage, and exclusively control the operation and safety of its personnel, facilities and other equipment and property and the manner and means of performing the rights and obligations under this Agreement. The District shall have no right of direction or control of AGF or its employees or agents, being only interested in the final results of the Project

except in accordance with Nebraska law, *Neb. Rev. Stat. Section 48-1122, as amended*, which provides that every contract to which the state or any of its political subdivisions is a party shall contain a provision requiring the contractor and his or her subcontractors not to discriminate against any employee or applicant for employment, to be employed in the performance of such contract, with respect to his or her hire, tenure, terms, conditions, or privileges of employment, because of his or her race, color, religion, sex disability, or national origin.

6. QUALIFICATION OF CONTRACTOR

The Contractor warrants and represents that it and all employees, agents, and subcontractors are qualified to perform the services described in this Agreement and in compliance with all applicable state and federal laws, policies, practices and procedures.

7. SUBCONTRACTORS

7.1 Contractor shall not otherwise transfer any rights, duties and/or obligations under this Agreement without prior written consent of the District. The duties and obligations of the Contractor shall not terminate or transfer upon the use of any subcontractor. The District acknowledges and agrees that to fully perform under this Agreement, the Contractor may use subcontractors for certain services. The Contractor will oversee all subcontractors' efforts and the District will not be liable or responsible for any actions of any subcontractor.

7.2 This Agreement is between the Contractor and the District and nothing herein is intended to create any third party benefit to subcontractors. The Contractor shall ensure that all financial obligations are met between the Contractor and subcontractor and shall ensure there are no liens upon the District or its property arising from subcontractor's actions or deliverables. Privity of contract only exists between the District and the Contractor. Separate privity of contract exists between the Contractor and subcontractor. These are mutually exclusive relationships; accordingly, there is no privity of contract between the District and the subcontractors.

8. GOVERNING LAW

This Agreement shall be governed, construed and interpreted by the laws of the

State of Nebraska, excluding any choice of law rules that would otherwise require the application of laws of any other jurisdiction. AGF irrevocably submits to the jurisdiction of the courts of the State of Nebraska including the federal court and waives any objection that it may have to either the jurisdiction, venue, or inconvenient forum of such courts.

9. INDEMNITY

9.1 To the fullest extent permitted by law, each Party (the “Indemnitor”) shall indemnify, defend, and hold harmless the other Party, including ENWRA, and its board members, officials, directors, officers, members, managers, agents, and employees (each an “Indemnified Party”) from and against all claims, damages, losses, fines, assessments, and expenses, including, but not limited to, attorneys’ fees if permitted by law (collectively, “Losses”), arising out of or resulting from: (a) a breach of this Agreement by the Indemnitor; (b) the unlawful acts of the Indemnitor or the Indemnitor’s subcontractors; or (c) the negligent or intentional acts or omissions of the Indemnitor or the Indemnitor’s subcontractors, provided that, in no event shall an Indemnitor be required to indemnify, defend, or hold harmless an Indemnified Party for Losses to the extent such Losses are caused by the negligent or intentional acts or omissions of the Indemnified Party.

9.2 If any claim covered by this indemnity is asserted by a third party, the Indemnified Party shall promptly give the Indemnitor notice of the claim and give the Indemnitor an opportunity to defend or settle the claim with counsel of its choice and at its expense, and the Indemnified Party shall extend its full cooperation in connection with the defense, subject to reimbursement for actual out-of-pocket expenses incurred by the Indemnified Party as the result of a request by the Indemnitor. If the Indemnitor fails to defend a claim within a reasonable time, the Indemnified Party shall be entitled to assume the defense and the Indemnitor shall be bound by the results obtained by the Indemnified Party with respect to the claim, and the Indemnitor shall be liable to the Indemnified Party for its expenses incurred in the defense, including, without limitation, reasonable attorney's fees if permitted by law and any settlement payments.

10. INSURANCE

At all times during the term of this Agreement, Contractor shall carry and

maintain at its own expense, work insurance protection of the kinds and the minimum amounts set forth below:

- 10.1 Commercial General Liability (CGL) Insurance in the sum of \$1,000,000.00 to any person and \$2,000,000.00 in the aggregate. Such insurance shall cover all operations in which the Data may be performed by AGF.
- 10.2 Professional Liability insurance to cover malpractice of AGF employees, agents or subcontractors in connection with the performance of this Agreement in an amount not less than \$2,000,000.
- 10.3 With respect to all such policies of insurance, AGF shall furnish evidence that AGF's insurers waive all rights of subrogation against the District, AGF shall also furnish evidence that the District is listed as an additional insured in such policies.
- 10.4 Upon execution of this Agreement, AGF shall furnish the District with certificates of insurance certifying that the insurance required under this Paragraph is in full force and effect. Each certificate shall contain a provision stating that the insurer agrees to give the District thirty (30) days prior written notice in the event of cancellation or material change in the insurance.
- 10.5 The Parties specifically recognize that certain federal or state statutory or case law may obligate or require modification to Paragraph 10 INSURANCE and Paragraph 9 INDEMNITY and that future changes in the law and interpretations of the law during the term of this Agreement may affect the validity or scope of those Paragraphs. Therefore, the Parties specifically agree that, if any provision of Paragraphs 10 or 9 is determined to be unenforceable or in contravention of any applicable law, such provision shall be deemed modified to the minimum extent required to bring such provision into compliance with said applicable law.

11. FORCE MAJEURE

Any delay or failure in the performance by either Party here under shall be excused if and to the extent caused by the occurrence of a Force Majeure. For purposes of this Agreement, Force Majeure shall mean a cause or event that is not reasonably foreseeable or otherwise caused by or under the control of the

Party claiming Force Majeure, including acts of God, fires, floods, explosions, riots, wars, hurricane, sabotage terrorism, vandalism, accident, restraint of government, governmental acts, injunctions, labor strikes that prevent Contractor from performing, and other like events that are beyond the reasonable anticipation and control of the Party affected thereby, despite such Party's reasonable efforts to prevent, avoid, delay, or mitigate the effect of such acts, events or occurrences, and which events or the effects thereof are not attributable to a Party's failure to perform its obligations under this Contract.

12. DISPUTE RESOLUTION

Notwithstanding the provisions of Paragraph 4.2 above, before a Party may bring suit in any court concerning any dispute arising out of or in connection with this Agreement, including any question regarding its existence, validity or termination, such Party must first seek in good faith to resolve the dispute through negotiation or other form of nonbinding alternate dispute resolution mutually acceptable to the Parties.

13. ACCESS TO RECORDS

The Contractor shall be granted reasonable access to the District's records as may be necessary to complete the scope of work.

14. CONFIDENTIALITY

14.1 AGF shall use its reasonable best efforts to keep confidential (a) data acquired from working with the Data to be conducted pursuant to this Agreement, (b) information relating to the location of the surveys and the type of work performed, and (c) information supplied by the District, which is not otherwise proprietary to AGF, and which is identified in writing by the District to AGF as being confidential. AGF shall not divulge to anyone other than its employees, subcontractors, and agents, and the District's representative, employees and agents, such confidential data or information unless previously authorized by the District in writing. AGF will require the same degree of confidentiality from its subcontractors.

14.2 Likewise, the District shall observe the above confidentiality obligation, insofar as it has access to and knowledge of the equipment, instruments, programs, and procedures of the operation hereof, which are the property

of and proprietary to AGF.

14.3 The foregoing obligation of confidentiality shall survive the termination of this Agreement but it shall not apply to information which (a) was or shall have been in the possession of the receiving Party prior to disclosure by the other Party, or (b) is acquired by the receiving Party from others who have no direct or indirect confidential commitment to the other Party with respect to same, or (c) are or become part of the public domain without the fault or participation of the receiving Party, or (d) as required by law.

15. CONFLICT OF INTEREST:

The Contractor warrants that he/she has no interest presently and shall not acquire any interest, direct or indirect, which would conflict in any manner with the performance of the services required under this Agreement.

16. SEVERABILITY OF TERMS:

Should any provision of this Agreement be deemed invalid or unenforceable, that provision shall be deemed to be deleted from this Agreement and all remaining provisions shall remain in full force and effect.

17. DISTRICT REPRESENTATIVES

17.1 The District designates: Kathy Spence, Phone: 402-476-2729, Email address: kspence@lpsnrd.org as its representative, to whom AGF's representative may deliver reports and other information and from whom AGF representative will receive instructions, provided such instructions are in accordance with the terms of this Agreement. AGF shall be entitled to rely on the apparent authority of such District representative on the District's behalf to inspect such activities and give instructions to AGF. Such instructions shall be related to the Project.

18. OWNERSHIP OF DATA

Upon AGF's receipt of the final payment, all information, documents, and data pertaining to the Data shall become the sole property of the District and shall be delivered to the District at the conclusion of the analysis. Subject to Paragraph 14 (Confidentiality), AGF reserves the right, but not the obligation to maintain a

digital backup of the data from the Project for archival purposes.

19. LAWS, RULES, AND LICENCES

AGF shall comply with all provisions of applicable law including, federal, state, and municipal laws, ordinances, rules and regulations relating to the performance of the Project. AGF warrants that it is duly licensed and authorized to perform the Project covered under this Agreement, if required by State, Federal or local laws, or that it will be so licensed and authorized prior to commencement thereof.

20. MECHANIC'S OR OTHER LIENS

AGF shall promptly pay all costs and charges incurred by it in connection with this Agreement and shall not suffer nor permit any Mechanic's lien or other liens attached to any property of the District.

21. ENFORCEMENT OF DISCIPLINE

AGF shall at all times enforce discipline and maintain good order among its employees and subcontractors, and shall not retain on the job any person not skilled in the task assigned to that person. AGF shall forthwith remove from the Project any employee of AGF or a subcontractor who is unacceptable, for good cause, to the District.

22. NOTICE

All notices, demands and consents required or permitted to be given under this Agreement shall be in writing and may be delivered personally, transmitted by facsimile or e-mail, or may be forwarded by first class prepaid certified mail, return receipt requested, to the addresses set forth below. Any notice shall be deemed given and received on the next business day after personal delivery or facsimile transmission or email, or if mailed, on the expiration of three (3) days after it is post marked, addressed as follows:

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT
3125 Portia Street
Lincoln, NE 68501-3581

Attention: Mr. Paul D. Zillig
General Manager
Phone: 402-476-2729

AQUA GEO FRAMEWORKS, LLC
130360 County Road D
Mitchell, NE 69357-2508

Attention: James C. Cannia
Member Principle Geologist
Phone: 308-641-2635
Email address: jcannia@aquageoframeworks.com

23. WAIVER

The rights herein given to either Party may be exercised from time to time, singularly or in combination, and the waiver of one or more of such rights shall not be deemed to be a waiver of such right in the future or of any one or more of the other rights that the exercising Party may have. No waiver of any breach of a term, provision, or condition of this Agreement by one Party shall be deemed to have been made by the other Party unless such waiver is expressed in writing and signed by an authorized representative of such Party and failure of either Party to insist upon the strict performance of any term, provision, or condition of this Agreement or to exercise any option herein given shall not be construed as a waiver or relinquishment in the future of the same or any other term, provision, condition or option.

24. ENTIRE AGREEMENT

This Agreement contains the entire agreement between the Parties and supersedes and replaces any oral or written communication previously made between the Parties relating to the subject matter hereof. This Agreement shall not be amended except by written instrument executed by the duly authorized representatives of both parties.

25. ASSIGNMENT

Neither the Contractor nor the District shall assign, subcontract, pledge, mortgage or otherwise encumber any of its rights hereunder without the prior written consent of the other Party.

26. DISCLAIMER

AGF shall conduct this Project using the current standards of the geophysical

industry and will use in-house quality control standards to produce the converted geophysical survey products. AGF's services are performed consistent with the professional skill and care ordinarily provided by professional geophysicists under the same or similar circumstances. No other warranty or representation, either expressed or implied, is made by AGF in connection with its services unless in writing and signed by an authorized representative of AGF.

IN WITNESS WHEREOF, the Parties to this Agreement have caused it to be executed by their duly authorized representatives as of June 30, 2020.

AQUA GEO FRAMEWORKS, LLC

By:-----
James C. Cannia P.G., Member Principal
Geologist

LOWER PLATTE SOUTH
NATURAL RESOURCES
DISTRICT, as Administrator for the
Eastern Nebraska Water Resources
Assessment

By:-----
Paul D. Zillig, General Manager of the
Lower Platte South Natural Resources District

ITEM 2

INTERLOCAL COOPERATIVE AGREEMENT

BETWEEN THE

**LEWIS & CLARK NATURAL RESOURCES DISTRICT
LOWER ELKHORN NATURAL RESOURCES DISTRICT
LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT
LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT
NEMAHA NATURAL RESOURCES DISTRICT and
PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT**

AMENDMENT #6

THIS AMENDMENT #6 is made and entered into by and between the above natural resources districts this ____ day of _____, 2020. The natural resources districts are hereinafter referred to collectively as the Districts. This Amendment supplements the original agreement effective as of January 18, 2007, and Amendments #1, #2, #3, #4 and #5 effective as of July 17, 2017.

Modification #1: Article III, Section 3.02, original agreement, as modified in Amendment #1,

Modification #1, Amendment #4, Modification #1 and Amendment #5, Modification #1:

The "Exhibit A" Cooperative Agreement references related to the coordinator position shall refer to the Amended Cooperative Agreement for the July 1, 2020 - June 30, 2022 term, attached hereto.

LEWIS AND CLARK NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER ELKHORN NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

NEMAHA NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

EXHIBIT A

AMENDMENT #1

TO THE

COOPERATIVE AGREEMENT (the “Agreement”) made and entered into between the LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT (“DISTRICT”), acting as Administrator under an Interlocal Agreement identified in Exhibit “A”, and the BOARD OF REGENTS OF THE UNIVERISTY OF NEBRASKA ON BEHALF OF THE UNIVERSITY OF NEBRASKA-LINCOLN THROUGH ITS CONSERVATION AND SURVEY DIVISION, SCHOOL OF NATURAL RESOURCES (“CSD”), collectively referred to herein as the “Parties.”

The Parties to the above captioned agreement hereby agree to amend said agreement as follows:

- The Period of Performance is extended until June 30, 2022. The new Period of Performance with this amendment is July 1, 2020 to June 30, 2022 (Years 4 and 5).

All other terms of the Agreement remain unchanged.

Lower Platte South NRD Cooperative Agreement –BUDGET

YEAR FOUR (July 1, 2020 to June 30, 2021)	TOTAL YEAR FOUR
Budget Category	
Salary	42,657
<i>Benefits</i>	12,797
Total Personnel	55,454
Travel	3,125
Supplies	350
Operating	2,775
Total Direct Costs	6,250
Total	61,704

Budget justification: Salary will be used to support a geologist/hydrogeologist. Travel is for field work and for attendance at service/educational activities and meetings. Supplies are for software needed for model development and data analysis and various small laboratory and field supplies needed to complete the project. No equipment will be purchased as part of this project.

EXHIBIT A

IN WITNESS WHEREOF, the Parties, intending to be legally bound, have executed this Amendment as of the last date signed below by their respective duly authorized representatives.

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT, as Administrator, acting on behalf of the participating DISTRICTS under an Interlocal Agreement attached as Exhibit "A" hereto.

By: _____
Paul D. Zillig

Date: _____

CONSERVATION AND SURVEY DIVISION

By: _____
Robert M. Joeckel

Date: _____

**BOARD OF REGENTS OF THE
UNIVERSITY OF NEBRASKA**

By: _____

Date: _____

EXHIBIT A

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IN WITNESS WHEREOF, the Parties, intending to be legally bound, have executed this Amendment as of the last date signed below by their respective duly authorized representatives.

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT, as Administrator, acting on behalf of the participating DISTRICTS under an Interlocal Agreement attached as Exhibit "A" hereto.

By: _____
Paul D. Zillig

Date: _____

CONSERVATION AND SURVEY DIVISION

By: _____
Robert M. Joeckel

Date: _____

**BOARD OF REGENTS OF THE
UNIVERSITY OF NEBRASKA**

By: _____

Date: _____